DRAWING AMENDMENTS

Three replacement drawing sheets containing FIGS. 1-5 are submitted herewith. FIGS. 1-4 of the replacement drawing sheets are the same as the original FIGS. 1, 2, 9 and 10 respectively. FIG. 5 illustrates the massaging apparatus and a patient's hand (see discussion in original paragraphs [0021]-[0024], for example) and also shows recesses (original paragraph [0013]) in the bottom of the container.

REMARKS

Applicant wishes to thank the examiner for the courtesy extended to the co-inventor Alexander Pervov and the undersigned representative (collectively referred to as applicant) during the telephone interview that took place on August 30, 2006. The interview was initiated by the applicant.

During the telephone interview, applicant inquired whether the examiner had yet reviewed the reply filed July 12, 2006 to the Office Action mailed January 12, 2006, and when the examiner expected to take the application up for further examination. The examiner indicated that further action was due on the application by September 16, 2006.

Applicant suggested that filing of a supplemental reply might be desirable, and the examiner requested that if a supplemental reply were filed, it should be filed by September 8, 2006.

Applicant offered to make available additional material illustrating use of an embodiment of the invention in treating patients, and the examiner said that he would contact applicant if he felt that such materials might be helpful.

Applicant also mentioned to the examiner that a corresponding foreign patent application had been approved.

There was no discussion during the interview of the merits of the claims, except that the examiner suggested that it was more likely that method claims rather than apparatus claims would be allowable. There was no discussion of the details of the prior art.

A second substitute specification is submitted herewith. The second substitute specification reinstates the original specification subject to the changes mentioned below. The second substitute specification includes markings showing all the changes relative to the immediate prior version of the specification of record, i.e. the substitute specification that

was filed on July 12, 2006. A clean version of the second substitute specification is also attached. In addition, to assist the examiner in identifying distinctions between the second substitute specification and the specification as originally filed, a second copy of the second substitute specification, including markings showing all the changes relative to the specification as originally filed, is submitted herewith. The inventors advise that the second substitute specification contains no new matter.

With regard to the change from "cerebral paralysis" to --cerebral palsy--, applicant believes that the condition that was previously known as cerebral paralysis is now more commonly referred to as cerebral palsy.

The previous claims 30-54 are canceled and are replaced by new claims 55-60. By reducing the number of claims, applicant wishes to focus examination on the most important issues regarding patentability without distraction by issues of relatively less importance. Paragraphs 12, 14, 21 and 24-27 of the original specification have been omitted from the second substitute specification because they are not necessary to support the new claims 55-60.

The new sentence in paragraph [0009] has been included to emphasize the effect that is achieved by the present invention.

The specification has been objected to under 35 USC 112, first paragraph, based on specific objections to claims 8 and 12, and claims 8 and 12 have been accordingly rejected. The new claims do not include the subject matter of claims 8 and 12 and accordingly the rejection of claims 8 and 12, and the corresponding objection to the specification, is moot.

Claims 3, 4, 15 and 16 stand rejected under 35 USC 112, second paragraph. The new claims do not include the subject matter of claims 3, 4, 15 and 16, and accordingly the rejections of those claims under 35 USC 112, second paragraph, is moot.

The examiner has objected that claim 24 fails to further limit claim 20. The new claims now presented avoid this objection.

The new claim 55 is based on the original claim 1 but specifies that the patient may insert an extremity rather than a hand into the internal cavity of the container. Thus, the therapy apparatus is not restricted to treatment of the hand but may be applied to other extremities, such as the feet.

Claim 1 was rejected under 35 USC 103 over Dedyukhina et al in view of Anzai et al. Applicant respectfully submits that the new claim 55 is patentable over Dedyukhina et al and Anzai et al, whether taken singly or in combination.

The present invention, as defined in claim 55, is concerned with a therapy apparatus comprising a container and a plurality of massaging elements. The massaging elements have a particular structure, as defined in claim 55. This structure permits both active and passive exercise of a patient. Active exercise is exercise by movement that is initiated voluntarily by the patient. For example, a patient voluntarily grasping an object executes active exercise. Passive exercise is not initiated by the patient voluntarily and includes exercise due to reflex action.

The present invention provides a safe apparatus and method for passive and active therapeutic exercise which induces passive movement in a patient with infantile cerebral palsy.

Dedyukhina et al discloses an apparatus for therapeutic physical training. The apparatus comprises a box containing a layer of peas or kidney beans 6-8 cm deep. The patient places the fingers in the bed of peas or kidney beans and carries out finger exercises. Although Dedyukhina et al refers to both peas and kidney beans, the examiner's discussion of Dedyukhina is confined to kidney beans and therefore applicant will discuss only kidney beans to avoid needless repetition. However, the

comments regarding kidney beans are mostly applicable to peas also. It is not clear from Dedyukhina et al whether the kidney beans are fresh, canned or dried, but in any event, fresh kidney beans typically are about 1.2 cm in length. It is to be expected that canned kidney beans would be larger than fresh kidney beans because they are immersed in liquid. Conversely, dried kidney beans are smaller than fresh kidney beans.

The method and apparatus disclosed by Dedyukhina et al does not achieve sufficient stimulation of nerve receptors to induce passive movement.

The higher therapeutic effect achieved by the present invention is achieved by inducing passive movements on the part of a patient. During exercise, stimulation of nerve receptors by the projections on the massaging elements induces passive movement of the extremity (typically the hand) and thereby increases the effect of the active therapeutic exercises. A patient using applicant's apparatus is instructed to insert the extremity among massaging elements and displace the elements. The movement that is needed to displace the massaging elements is different from that which would be applicable to the apparatus or Dedyukhina et al. The patient must press against the projections of the massaging elements and the pressure, particularly in the case of conical projections (claim 57), induces passive movement of the patient's extremity.

Anzai et al discloses a massage apparatus comprising at least two massage balls. Anzai et al teaches that the massage balls should be either contained in a case or held in the user's hand and rolled over the skin. The massage balls shown by Anzai et al are approximately 28 mm in diameter and are provided on their exterior surface with conical projections 5 that are equally spaced from each other.

The examiner argues in support of the rejection of the original claim 1 that it would have been obvious to replace the

kidney beans of Dedyukhina et al with the massaging balls of Anzai et al in order to facilitate a more pronounced therapeutic effect. Applicant respectfully disagrees.

In connection with claim 11, the examiner asserts, without support, that the average kidney bean is about an inch in diameter. Applicant submits that this assertion reflects a serious misconception on the part of the examiner with respect to the disclosure of Dedyukhina et al. A copy of the label from a standard 15.25 oz. can of kidney beans (approximately 11 cm high and 7.5 cm in diameter) is submitted herewith. The illustration on the label shows that kidney beans are elongated and that the width of a kidney bean is about 1/3 of the length of the bean. Applicant submits that since a kidney bean is elongate, it is misleading to refer to the bean's diameter, which suggests a spherical shape, and furthermore, applicant submits that the length of a kidney bean is typically significantly less than one inch and is closer to 1.2 cm, i.e. less than half an inch. If the average kidney bean were about an inch in diameter, the standard 15.25 oz. can would contain no more than about 10 kidney beans. Applicant acknowledges that Wikipedia is not a binding legal authority but nevertheless notes that this source reports that kidney beans are about 1.5 cm in length.

Although the illustration on the label does not show a reliable scale, applicant submits that customers for kidney beans would expect the illustration to be a reasonable facsimile of a full scale illustration of a small bowl of kidney beans, about 8 cm in diameter. It is quite clear that the beans would not reasonably be described as objects that are about an inch (2.54 cm) in diameter.

Further, although the disclosure of Dedyukhina et al is not clear on the point, applicant submits that for several reasons a person of ordinary skill in the art would not interpret Dedyukhina et al as disclosing use of fresh or canned kidney

beans, since they would be degraded quite quickly both by the action of the patient (who would likely find the urge to squeeze the beans irresistible) and by fermentation. Applicant therefore submits that a person of ordinary skill in the art would interpret Dedyukhina et al as disclosing use of dried kidney beans, which would be even smaller than the canned kidney beans.

The kidney beans of Dedyukhina et al have a relatively smooth surface, without discrete projections, and are light and small, such that they behave very much like a liquid when placed in a layer 6-8 cm deep. Thus, even a three year old child would be able to immerse his hand in the layer of peas or kidney beans and move his fingers easily against the slight resistance offered by the light objects.

The massaging balls described by Anzai et al are approximately 28 mm in diameter and the diameter of a massaging ball is therefore about 3.5 times the diameter of a pea (about 8 mm). Assuming that a kidney bean is about the same volume as a pea, the volume of a massaging ball would be about 40 times the volume of a pea, and assuming similar densities, the mass of the massaging ball would be about 40 times the mass of a pea. In view of these observations, applicant submits that it would not have been obvious to a person of ordinary skill in the art to use massaging balls similar to those of Anzai et al in the apparatus disclosed by Dedyukhina et al.

A small child who could easily immerse his hand in the layer of kidney beans of Dedyukhina et al and exercise his fingers when his hand is immersed, would not be readily able to perform a similar exercise if objects like the massaging balls of Anzai et al were used in lieu of the kidney beans. Further, a layer of massaging balls, each about 28 mm in diameter, would not be expected on the basis of the disclosure in the prior art to have a similar therapeutic effect to a layer of small and light objects, such as kidney beans. The massaging elements defined in

claim 55 provide a useful therapeutic effect because the protrusions stimulate the nerve receptors when the patient's extremity is moved among the massaging elements. This type of effect is not disclosed or suggested by Dedyukhina et al and, for the reasons discussed above, it would not have been obvious to a person of ordinary skill in the art to have modified the apparatus of Dedyukhina et al by using the massage balls in lieu of kidney beans.

Claim 56 is patentable independently of claim 55. There is no disclosure or suggestion in Dedyukhina et al that the therapy should be conducted in a liquid medium. The only liquid medium that would be practicable for application of therapeutic physical training would be water, and kidney beans would rapidly deteriorate if immersed in water for any significant period of time.

There is no suggestion in Anzai et al that the massage balls should be immersed in a liquid medium.

The examiner relies on Staffin et al as rendering it obvious to modify the therapeutic physical training disclosed by Dedyukhina et al by using a liquid-filled container. Applicant respectfully disagrees. Staffin et al discloses a method of therapeutic treatment in which a hand, for example, is placed in a bed of sand that is fluidized by introducing gas under pressure into the bed of sand through openings in the bottom wall of the container in which the sand is located. Staffin et al does not disclose or suggest use in therapy of a bed of objects such as kidney beans in a liquid medium.

For reasons corresponding to those presented in support of claim 55, it would not have been obvious to a person of ordinary skill in the art to substitute the massage balls of Anzai et al for the kidney beans of Dedyukhina et al in executing a method of therapy. Accordingly, claim 58 is patentable and it follows that the dependent claim 59 also is patentable.

Claim 60 corresponds to the original claim 20, but is now limited to the massaging element being a spherical body comprising an integral piece of solid material. This is supported by the original paragraph [0013]. The original claim 20 was rejected under 35 USC 102 over Hsieh. Hsieh discloses a spherical massager comprising two hollow semi-spherical bodies 10 each having a soft facial layer 11. Since the semi-spherical bodies are hollow, the massager disclosed by Hsieh is not solid. Since the massager is composed of two semi-spherical bodies each having a soft facial layer, the massager is not integral. Therefore, the new claim 60 is not anticipated by Hsieh. The other cited references, such as Anzai et al, do not disclose or suggest a massaging element comprising an integral piece of solid material.

In connection with the original claim 20 the examiner asserted that the claim did not clearly set forth how the protrusions were located relative to the inscribed method. Applicant believes that claim 60 avoids this objection by specifying "the projection points of apexes and centers of pentagons and hexagons

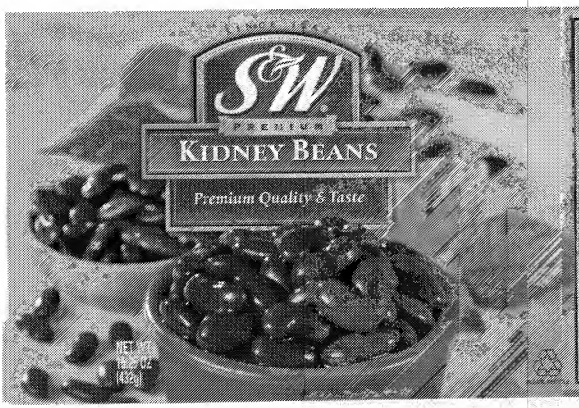
Applicant submits that all claims now of record are patentable over the prior art.

Respectfully submitted,

/John Smith-Hill/
John Smith-Hill
Reg. No. 27,730

SMITH-HILL & BEDELL, P.C.
16100 N.W. Cornell Road, Suite 220
Beaverton, Oregon 97006

Tel. (503) 574-3100
Fax (503) 574-3197
Docket: PERV 2777



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Sodium 450mg	19%
Total Carbohydrate 23g	8%
Dietary Fiber 6g	24%
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